

## Appendix I: Tetracycline Injections

On certain trips, the NED experiment for example, sea turtles that are brought onboard will be injected with the antibiotic tetracycline. One dose administered prior to hook removal, skin biopsy, and tagging, would suffice for whatever beneficial prophylactic affects presurgical antibiotics may confer in preventing post-surgical infections, including those caused by hooks. In addition, tetracycline marks the bones of the sea turtle at the time of injection. This property will be used for an aging study, if any marked turtle happens to strand dead in the future.

All injections will be applied to the dorsal shoulder musculature (latissimus dorsi, teres major, deltoides) with disposable syringes (20 gauge, 1" needle). The quantity of tetracycline to be administered depends on the weight of the animal, which will be estimated from its straight carapace length (SCL n-t). All dosages of tetracycline can be administered in a single injection site.

### Injection Procedure

Measure the straight carapace length of the turtle in cm. Use the Dosage Card and find the corresponding dosage required for the animal's size. Wear a pair of disposable latex gloves and draw the necessary dosage with the disposable syringe from the 100 ml tetracycline bottle. Use the 3 cc syringe for antibiotic quantities 0.6 - 2.9 ml and the 5 cc syringe for any larger quantities. After you have prepared your syringe, cover the needle and set aside, and immobilize the animal. Clean the area of the injection with Betadine. Insert the needle at a 45° angle into the right front dorsal shoulder musculature. Before you inject the tetracycline, pull back on the syringe plunger to make sure you have not hit a blood vessel. If there is no blood coming up into the syringe, apply continuous force to the plunger to administer the antibiotic. If blood does enter the syringe when the plunger is pulled back, readjust the needle placement by partially pulling back the needle (do not remove entirely) and changing the angle of insertion. Check again to verify you are not in a blood vessel before administering the antibiotic. After you remove the needle, apply pressure with a Betadine swab in the area to stop the bleeding and prevent any infections. Record the tetracycline dose in the comments field of your Life History Form. Dispose of the syringe in the sharps container.



## **TETRACYCLINE DOSAGE**

**Tetracycline administered in one shot with a 20 gauge 1”needle in the right front dorsal shoulder musculature of hardshell turtles.**

<b>SCL-tip (cm)</b>	<b>Drug Dosage (ml)</b>	<b>Syringe Size</b>
<b>30</b>	<b>0.4</b>	<b>3 cc</b>
<b>31</b>	<b>0.4</b>	<b>3 cc</b>
<b>32</b>	<b>0.5</b>	<b>3 cc</b>
<b>33</b>	<b>0.5</b>	<b>3 cc</b>
<b>34</b>	<b>0.6</b>	<b>3 cc</b>
<b>35</b>	<b>0.6</b>	<b>3 cc</b>
<b>36</b>	<b>0.7</b>	<b>3 cc</b>
<b>37</b>	<b>0.7</b>	<b>3 cc</b>
<b>38</b>	<b>0.8</b>	<b>3 cc</b>
<b>39</b>	<b>0.9</b>	<b>3 cc</b>
<b>40</b>	<b>0.9</b>	<b>3 cc</b>
<b>41</b>	<b>1</b>	<b>3 cc</b>
<b>42</b>	<b>1.1</b>	<b>3 cc</b>
<b>43</b>	<b>1.2</b>	<b>3 cc</b>
<b>44</b>	<b>1.3</b>	<b>3 cc</b>
<b>45</b>	<b>1.4</b>	<b>3 cc</b>
<b>46</b>	<b>1.4</b>	<b>3 cc</b>
<b>47</b>	<b>1.5</b>	<b>3 cc</b>
<b>48</b>	<b>1.6</b>	<b>3 cc</b>
<b>49</b>	<b>1.8</b>	<b>3 cc</b>
<b>50</b>	<b>1.9</b>	<b>3 cc</b>
<b>51</b>	<b>2</b>	<b>3 cc</b>
<b>52</b>	<b>2.1</b>	<b>3 cc</b>
<b>53</b>	<b>2.2</b>	<b>3 cc</b>
<b>54</b>	<b>2.4</b>	<b>3 cc</b>
<b>55</b>	<b>2.5</b>	<b>3 cc</b>
<b>56</b>	<b>2.6</b>	<b>3 cc</b>
<b>57</b>	<b>2.8</b>	<b>3 cc</b>
<b>58</b>	<b>2.9</b>	<b>3 cc</b>

## **TETRACYCLINE DOSAGE**

**Tetracycline administered in one or two shots with a 20 gauge 1”needle in the right front dorsal shoulder musculature of hardshell turtles.**

<b>SCL-tip (cm)</b>	<b>Drug Dosage (ml)</b>	<b>Syringe Size</b>
<b>59</b>	<b>3.1</b>	<b>5 cc</b>
<b>60</b>	<b>3.2</b>	<b>5 cc</b>
<b>61</b>	<b>3.4</b>	<b>5 cc</b>
<b>62</b>	<b>3.6</b>	<b>5 cc</b>
<b>63</b>	<b>3.8</b>	<b>5 cc</b>
<b>64</b>	<b>4</b>	<b>5 cc</b>
<b>65</b>	<b>4.1</b>	<b>5 cc</b>
<b>66</b>	<b>4.3</b>	<b>5 cc</b>
<b>67</b>	<b>4.5</b>	<b>5 cc</b>
<b>68</b>	<b>4.8</b>	<b>5 cc</b>
<b>69</b>	<b>5</b>	<b>5 cc</b>
<b>70 *</b>	<b>5.2</b>	<b>5 cc</b>
<b>71 *</b>	<b>5.4</b>	<b>5 cc</b>
<b>72 *</b>	<b>5.7</b>	<b>5 cc</b>
<b>73 *</b>	<b>5.9</b>	<b>5 cc</b>
<b>74 *</b>	<b>6.2</b>	<b>5 cc</b>
<b>75 *</b>	<b>6.4</b>	<b>5 cc</b>
<b>76 *</b>	<b>6.7</b>	<b>5 cc</b>
<b>77 *</b>	<b>6.9</b>	<b>5 cc</b>
<b>78 *</b>	<b>7.2</b>	<b>5 cc</b>
<b>79 *</b>	<b>7.5</b>	<b>5 cc</b>
<b>80 *</b>	<b>7.8</b>	<b>5 cc</b>

**\* Animals with a SCL > 70cm should have their dosage split into 2 equal volumes and administered in each shoulder.**

**Leatherbacks boated should not be injected with Tetracycline.**

**Dosage calculations are based on loggerhead morphometric data, a 200 mg / ml Tetracycline concentration and a 25 mg / kg dosage rate.**

**Dosage (ml) = Weight (kg) x 25 (mg / kg) / Concentration (mg / ml)**

**Weight (kg) = 0.0001 SCL<sup>3.0452</sup> with R<sup>2</sup> = 0.9845**